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Lisbon Strategy and Policies for the Information Society
Lisbon Strategy and i2010

Use of Computers and the Internet in Schools in Europe 2006

Country Brief: Lithuania

6 / 2006

Key findings

Almost all Lithuanian schools now use computers for teaching (97%) and have internet access (95%). However, only 33% use the internet via a broadband connection. With this figure Lithuania ranks at number 24 of the 27 countries participating in the survey. There is not much variation between school types, with vocational schools being somewhat better equipped than other schools.

There is some variation with regard to broadband access between urban and rural areas: 45% of schools in densely populated areas and intermediate regions have broadband access compared to only 28% of schools in thinly populated areas.

Only 48% of the Lithuanian schools using computers for teaching use them in classrooms.

Computers are widely used in the school library (62% compared to a EU25 average of just 33%) which might be an indication of a very early stage of computer use in schools, where – as a result of lack of ICT equipment – computers are firstly installed in an area accessible to all pupils and teachers.

A very high 90% of teachers wish there were better support and maintenance actions taken, again an indicator for the sub-optimal ICT equipment in schools.

Only 59% of Lithuanian classroom teachers had used computers in class in the 12 months prior to the survey, with significant variation across school types and between urban and rural areas. While 74% of the vocational school teachers are using ICT in class, the figure is only 59% among primary school teachers. Surprisingly ICT use in class is more widespread in thinly populated areas. Use of computers in class hardly differs according to the age of teachers, which is also somewhat surprising.

The Lithuanian teachers using computers in class use them as frequently and intensively as the "average" European teacher. Less than 20% use them only in less than 10% of all lessons. Teachers in vocational schools use computers in class much more frequently than their colleagues in general education.

A high 41% of teachers in Lithuania still do not use computers in class. When asked for the most important barrier, a very high 78% state a lack of computers in their schools as by far the most important barrier. Other reasons are of much less importance.

The differences to the European average are striking. But there are also positive signs. Lithuanian teachers not using computers in class show figures on "lack of skills", "no or unclear benefits in using ICT" and "lack of interest" which are significantly below the European average.

It appears that policies are urgently required in the area of ICT equipment improvement in Lithuanian schools.

Lithuanian teachers also achieve significantly lower figures on ICT competence compared to the European average.

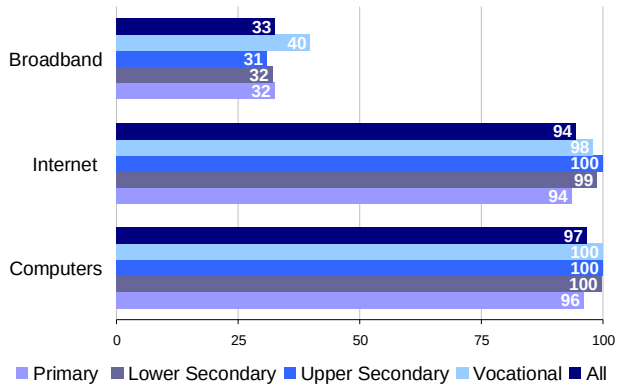
The strength of Lithuanian teachers is their motivation for using ICT. Here, Lithuania ranks 4th in Europe.

ICT Equipment and Internet in Schools

Almost all Lithuanian schools now use computers for teaching (97%) and have internet access (95%). Only 33% use the internet via a broadband connection. With this figure Lithuania ranks at number 24 of the 27 countries participating in the survey. There is not much variation between school types, with vocational schools being somewhat better equipped than other schools.

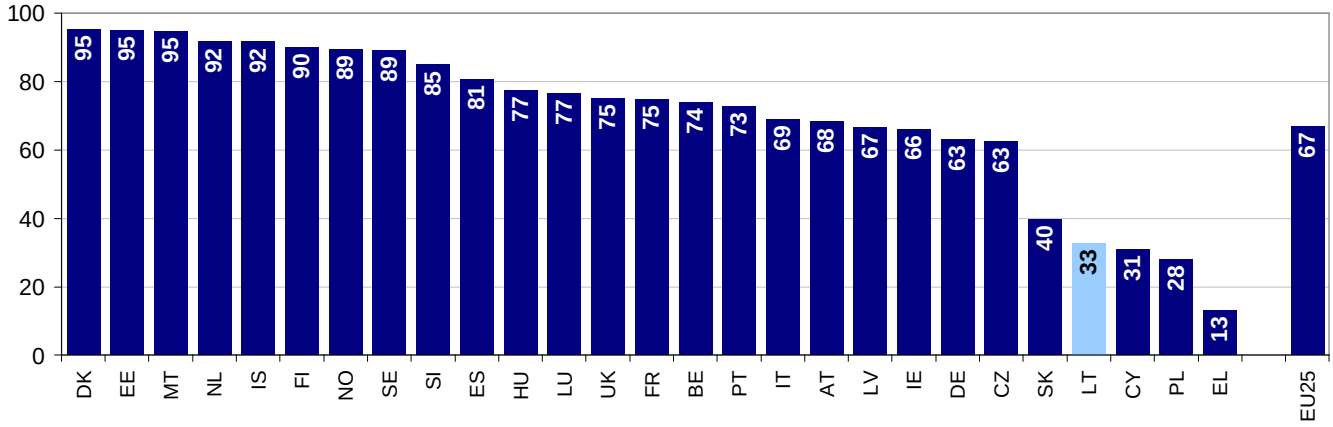
There is some variation with regard to broadband access between urban and rural areas: 45% of schools in densely populated areas and intermediate regions have broadband access compared to only 28% of schools in thinly populated areas.

Percentage of Schools Using Computers, Internet Connection, and Broadband Internet Access According to School Type in Lithuania 2006



Source: *LearnInd HTS 2006;* ***Base:*** *All schools;* ***Question:*** *Computers: Q6; Internet, Broadband: Q9. See questionnaire for exact wording.*

Percentage of Schools with Broadband Internet Access in Europe 2006



Source: *LearnInd HTS 2006;* ***Base:*** *All schools;* ***Question:*** *Q9. See questionnaire for exact wording.*

60% of schools have a website, 57% offer e-mail to teachers, and 18% do so to pupils. Only 48% of the Lithuanian schools using computers for teaching use them in classrooms, with the highest percentage being achieved in upper secondary (55%) and vocational schools (54%). Computers are widely used in the school library (62% compared to a EU25 average of just 33%) which might be an indication of a very early stage of computer use in schools, where – as a result of lack of ICT equipment – computers are firstly installed in an area accessible to all pupils and teachers.

Those schools with a broadband connection to the internet are much more likely to have a more sophisticated ICT infrastructure including a school website, the use of a LAN or the availability of an intranet.

The use of Computers and the Internet in Schools

Computers are used for various purposes and as part of teaching different subjects in schools but also and very widely as a separate subject.

Computer sciences are taught as a separate subject in almost 100% of both lower and upper secondary schools, in 92% of vocational schools and 86% of primary schools, according to the statements made by Lithuanian head teachers. 81% use computers integrated into the teaching of most subjects.

ICT equipment in Lithuanian schools 2006

				Educational Level (LT)				Type of locality (LT)			Internet Access (LT)	
	Total LT	Total EU25	Total NMS10	Primary	Lower secondary	Upper secondary	Vocational	Densely populated	Inter-mediate	Thinly populated	Narrow-band	Broadband
Computers per 100 pupils [a]	5.9	11.3	7.1	5.5	5.9	5.9	8.3	4.7	N/A	6.6	6.0	5.9
... of which internet connected	5.2	9.9	6.4	4.7	5.2	5.4	7.8	4.3	N/A	5.7	5.2	5.3
Percentage of schools having...												
Computers for teaching [b]	96.7	98.7	96.7	96.1	99.7	100.0	100.0	92.8	N/A	98.1	100.0	100.0
Internet access [c]	94.5	96.2	94.7	93.6	98.8	100.0	98.0	91.1	N/A	95.7	100.0	100.0
Broadband internet access [d]	32.6	66.9	43.4	32.5	32.0	30.9	39.9	44.5	N/A	28.3	0.0	100.0
A website [e]	60.3	63.0	66.7	53.8	63.2	84.8	98.0	73.2	N/A	55.7	62.9	65.8
An e-mail address for the majority of teachers [f]	57.2	65.2	48.1	55.6	58.7	53.5	64.0	49.6	N/A	60.0	60.6	60.7
An e-mail address for the majority of pupils [g]	18.0	23.5	24.4	16.0	21.3	23.6	12.0	17.9	N/A	18.1	19.1	19.1
A LAN [h]	49.6	55.2	60.4	45.8	56.1	64.3	70.0	49.8	N/A	49.6	48.2	60.8
An intranet [i]	24.6	40.8	26.9	21.6	25.4	36.2	36.0	30.2	N/A	22.6	23.0	31.8
An external support or maintenance contract [j]	52.0	47.1	44.3	50.6	55.3	56.7	56.0	44.1	N/A	54.8	53.2	58.5
Percentage of schools using computers for education in…												
Computer labs [k]	89.1	80.5	94.6	87.2	98.2	99.8	98.0	82.2	N/A	91.4	90.6	89.8
Classrooms [l]	48.0	61.4	29.5	47.1	47.0	55.4	54.0	53.0	N/A	46.2	48.2	48.4
School library [m]	61.7	33.4	36.8	56.6	65.6	93.0	84.0	70.4	N/A	58.8	63.3	61.9
Other locations accessible for pupils [n]	20.1	27.0	20.2	18.9	19.2	25.4	22.0	26.6	N/A	17.8	20.1	18.1

Source: *LearnInd HTS 2006;* ***Base:*** *a: all pupils; b-j: all schools, k-n: schools using computers for educational purposes for pupils (cf. index b);* ***Question:*** *a: Q4, Q6, Q7; b: Q6; c: Q9; d: Q9; e-j: Q12; k-n: Q8. See questionnaire for exact wording.* ***Notes:*** *No interviews in intermediate regions were carried out in Lithuania.*

Use of computers in class in Lithuania 2006

Assessments of the head teacher		Total LT	Total EU25	Total NMS10	Educational Level (LT)				Type of locality (LT)			Internet Access (LT)	
					Primary	Lower secondary	Upper secondary	Vocational	Densely populated	Inter-mediate	Thinly populated	Narrow-band	Broadband
Computer sciences taught as separate subject	Agree	87.8	54.7	91.2	86.3	96.1	97.2	92.0	81.9	N/A	89.9	90.3	84.8
	Disagree	11.4	43.7	8.4	12.8	3.6	2.3	8.0	17.1	N/A	9.5	9.3	13.7
	Don't know	0.7	1.6	0.4	0.9	0.3	0.5	0.0	1.0	N/A	0.6	0.4	1.5
Computers and the internet are													
integrated into teaching of most subjects	Agree	83.9	75.3	73.1	83.2	89.3	89.6	90.0	79.7	N/A	85.4	84.0	85.6
	Disagree	14.8	24.1	26.4	15.4	10.1	10.4	10.0	17.4	N/A	14.0	14.5	13.7
	Don't know	1.2	0.6	0.4	1.5	0.6	0.0	0.0	2.9	N/A	0.7	1.5	0.7
used for teaching traditional subjects or basic skills	Agree	80.9	75.8	72.3	80.9	83.0	85.3	88.0	77.3	N/A	82.2	80.4	83.1
	Disagree	17.5	22.8	26.0	17.7	16.1	12.2	4.0	20.0	N/A	16.6	17.6	15.9
	Don't know	1.6	1.4	1.7	1.4	0.9	2.5	8.0	2.7	N/A	1.2	1.9	1.0
used for teaching foreign languages	Agree	81.7	56.6	71.1	80.8	86.7	89.1	86.0	79.6	N/A	82.5	82.4	81.8
	Disagree	16.2	40.1	28.0	16.8	12.4	10.1	12.0	14.7	N/A	16.7	15.2	16.7
	Don't know	2.1	3.3	0.8	2.3	0.9	0.8	2.0	5.8	N/A	0.8	2.4	1.5
used for teaching students with special needs/ handicaps	Agree	59.8	71.7	58.3	64.2	64.4	56.6	34.0	57.0	N/A	60.8	57.5	66.2
	Disagree	31.3	23.7	31.6	30.6	28.8	28.8	26.0	27.9	N/A	32.5	33.9	24.5
	Don't know	8.9	4.6	10.1	5.1	6.8	14.6	40.0	15.1	N/A	6.8	8.6	9.3

Source: *LearnInd HTS 2006;* ***Base:*** *All schools using computers for educational purposes for pupils;* ***Question:*** *Q13: "To what extent do you agree or disagree with the following statements regarding the educational use of computers and/or the internet in your school?"* ***Notes:*** *No interviews in intermediate regions were carried out in Lithuania.*

Only 59% of Lithuanian classroom teachers had used computers in class in the 12 months prior to the survey, with significant variation across school types and between urban and rural areas. While 74% of the vocational school teachers are using ICT in class, the figure is only 59% among primary school teachers. Surprisingly ICT use in class is more widespread in thinly populated areas. Use of computers in class hardly differs according to the age of teachers, which is also somewhat surprising.

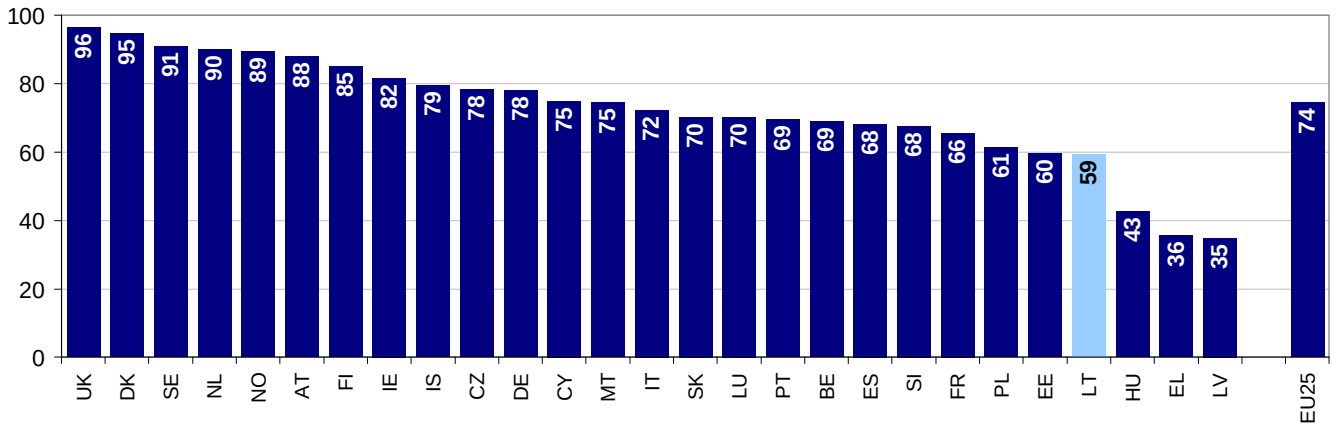
For most teachers, this includes not only using a computer for presentation purposes but also the use of computers by pupils in class.

The Lithuanian teachers using computers in class use them as frequently and intensively as the "average" European teacher. Less than 20% use them only in less than 10% of all lessons. Around the same number of teachers state, that they use computers in more than half of their lessons. Teachers in vocational schools use computers in class much more frequently than their colleagues in general education with almost 60% using computers in more than a quarter of their lessons, which compares to 40% in all other school types.

Lithuanian teachers using computers do not restrict themselves to a particular source of information but use a multitude of different material from a variety of sources for teaching purposes which in most categories is around the European average. They are very active (88%) in searching for material themselves in the internet. This shows a very proactive behaviour.

Not surprisingly, the older the teachers (indicator used here: years of teaching experience), the less use they make of computers and the internet in schools. The younger teachers are by far the most intensive ICT users in class with more than a quarter of those with less than 10 years teaching experience using it in more than 50% of the lessons, whereas only 13% of those with more than 20 years teaching experience do so as well.

Percentage of teachers who have used computers in class in the last 12 months (2006)



Source: *LearnInd CTS 2006;* ***Base:*** *All teachers;* ***Question:*** *Q7. See questionnaire for exact wording*

Teachers' use of computers in class in Lithuania 2006

Percentage of teachers who …	Total LT	Total EU25	Total NMS10	Educational Level (LT)				Type of locality (LT)			Years of teaching experience (LT)			
				Primary	Lower secon-dary	Upper secon-dary	Voca-tional	Densely popu-lated	Inter-mediate	Thinly popu-lated	<5 y	5-9 y	10-19 y	20+ y
...have used computers in class[1]	59.3	74.3	61.3	58.7	65.0	64.1	74.3	50.5	N/A	62.3	57.9	62.2	61.7	56.9
…use a computer in class to present or demonstrate	55.5	63.4	55.5	55.0	60.6	62.9	70.4	49.7	N/A	57.5	53.3	57.6	58.9	52.8
…have pupils use a computer in class	47.3	66.3	53.8	46.3	54.3	51.4	54.7	34.8	N/A	51.5	43.3	52.8	49.2	45.2

Source: *LearnInd CTS 2006;* ***Base:*** *All teachers;* ***Question:*** *Q7 "How have you used computers and/or the internet for work in the last 12 months?"* ***Notes:*** *No interviews in intermediate regions were carried out in Lithuania.*

Frequency of computers use in class in Lithuania 2006

Percentage of all teachers *using computers in class* who …	Total LT	Total EU25	Total NMS10	Educational Level (LT)				Type of locality (LT)			Years of teaching experience (LT)			
				Primary	Lower secon-dary	Upper secon-dary	Voca-tional	Densely popu-lated	Inter-mediate	Thinly popu-lated	<5 y	5-9 y	10-19 y	20+ y
…use computers in 5% and less of all lessons	16.4	18.5	15.0	15.3	15.7	16.0	*5.3**	18.8	N/A	15.7	9.1	14.0	13.1	22.3
in 6 to 10% of lessons	18.7	22.5	17.7	16.7	19.1	21.0	*15.7**	20.3	N/A	18.2	19.4	12.7	18.9	20.3
in 11 to 24% of lessons	22.3	22.2	22.1	25.4	22.7	22.6	*18.4**	20.9	N/A	22.7	19.7	22.6	25.5	20.3
in 25 to 50% of lessons	25.8	20.2	24.0	26.1	26.1	21.2	*26.4**	21.1	N/A	27.1	25.1	24.1	28.4	24.3
more than 50% of lessons	16.8	16.5	21.3	16.4	16.4	19.2	*34.2**	18.9	N/A	16.2	26.8	26.5	14.1	12.8

Source: *LearnInd CTS 2006;* ***Base:*** *Teachers using computers in class, "don't know" answers excluded;* ***Question:*** *Q9 "For what percentage of time have you used computers and/or the internet in class when teaching your main subject(s) in the past 12 months?"* ***Notes:*** *No interviews in intermediate regions were carried out in Lithuania.*

A high 41% of teachers in Lithuania still do not use computers in class. When asked for the most important barrier, a very high 78% state a lack of computers in their schools as the by far most important barrier. Other reasons are of much less importance.

This results in a situation where the statement "lack of equipment in school" is expressed by a very substantial 32% of all Lithuanian teachers (41% non-users multiplied with 78% of teachers agreeing to this item).

The differences with the European average are striking. But there are also positive signs. Lithuanian teachers not using computers in class show figures on "lack of skills", "no or unclear benefits in using ICT" and "lack of interest" which are significantly below the European average.

It appears that policies are urgently required in the area of ICT equipment improvement in Lithuanian schools. There is great scope for further ICT-infrastructure improvements at Lithuanian schools, such as an increase of the number of computers in total and per pupil where Lithuania ranks below the European average.

Attitudes on the Usefulness of ICT use in Teaching

Computers and the internet have arrived in Lithuanian schools but the level of equipment and quality of access as well as its use in class still leaves some substantial room for improvement.

The share of teachers in Lithuania – but also in the European Union in general – who believe that computers and the internet should not at all be used in schools, is very low and below 1%.

Source of educational material used in class in Lithuania 2006

Percentage of all teachers *using computers in class*[2] who …	**Total LT**	**Total EU25**	**Total NMS10**	**Educational Level**				**Type of locality**		
				Primary	**Lower secondary**	**Upper secondary**	**Vocational**	**Densely populated**	**Inter-mediate**	**Thinly populated**
…use material they have searched the internet for	88.4	82.7	81.8	86.4	89.7	91.4	*92.1**	88.5	N/A	88.4
…use existing online material from established educational sources	76.9	74.2	61.8	75.5	78.0	82.6	*73.7**	87.1	N/A	74.1
…use material that is available on the school's computer network or database	61.2	63.1	52.7	59.5	62.1	62.6	*36.8**	72.0	N/A	58.3
…use electronic offline material (such as CD ROMS)	69.9	83.0	82.2	69.9	72.6	78.0	*84.2**	71.4	N/A	69.5
…use other learning material when using computers in class	0.9	8.8	10.8	1.1	0.9	0.4	*2.7**	0.7	N/A	1.0

Source: *LearnInd CTS 2006;* ***Base:*** *Teachers using computers in class;* ***Question:*** *Q10 "Which of the following types of materials have you used when teaching your main subject(s) with the aid of a computer and/or the internet?"* ***Notes:*** *"xx.x*": based on at least 10 and less than 50 cases. No interviews in intermediate regions were carried out in Lithuania.*

Barriers to computer use in class in Lithuania 2006

Percentage of all teachers ***not** using computers in class*	Total LT	Total EU25	Total NMS10	Educational Level				Type of locality		
				Primary	Lower secondary	Upper secondary	Vocational	Densely populated	Inter-mediate	Thinly populated
Lack of computers	78.2	48.8	49.0	79.1	72.4	76.1	*84.9**	82.7	N/A	76.3
Lack of adequate content/material	11.6	20.3	16.5	13.3	14.9	17.0	*0.0**	8.6	N/A	12.9
Lack of content in national language	5.4	8.6	5.7	5.8	7.5	8.6	*0.0**	7.8	N/A	4.4
Lack of adequate skills of teachers	12.4	22.5	9.8	13.3	14.6	14.9	*0.0**	9.4	N/A	13.8
No or unclear benefits	6.6	16.2	6.8	6.6	9.6	8.5	*0.0**	7.0	N/A	6.4
Lack of interest of teachers	2.7	8.9	3.3	2.7	3.7	4.2	*0.0**	2.5	N/A	2.8
Subject does not lend itself to being taught via computers	10.2	24.4	25.0	8.8	12.5	13.4	*22.8**	10.2	N/A	10.2
Other	6.3	21.3	20.3	5.8	6.9	4.1	*15.4**	4.2	N/A	7.2

***Source:** LearnInd CTS 2006; **Base:** all teachers not using computers in class; **Question:** Q12: "Why do you not use computers and/or the internet when teaching in class?" **Notes:** "xx.x*": based on at least 10 and less than 50 cases. No interviews in intermediate regions were carried out in Lithuania.*

Attitudes on the Usefulness of ICT use in Teaching in Lithuania 2006

Percentage of teachers saying computers/internet should be used for …	Total LT	Total EU25	Total NMS10	Educational Level				Type of locality		
				Primary	Lower secondary	Upper secondary	Vocational	Densely populated	Inter-mediate	Thinly populated
Letting pupils do exercises and practise	70.0	79.9	78.8	68.2	71.3	70.1	45.0	69.8	N/A	70.0
Letting pupils retrieve information in a self-directed manner	66.9	85.0	87.8	65.7	69.9	71.6	50.9	65.4	N/A	67.4
Teaching about office tools	52.5	61.3	51.0	49.0	54.9	50.3	31.3	48.2	N/A	54.0
Collaborative and productive work by pupils	78.2	80.5	67.2	75.9	79.7	77.1	68.5	76.0	N/A	79.0
Computer/internet should not be used for any of these in teaching	0.3	0.6	0.5	0.3	0.3	0.3	0.0	0.8	N/A	0.2

***Source:** LearnInd CTS 2006; **Base:** all teachers; **Question:** Q13: "What do you think for what computers and the internet should be used for in teaching?" **Notes:** No interviews in intermediate regions were carried out in Lithuania.*

Lithuanian teachers have a positive attitude about the different applications of ICT in teaching but achieve lower figures (below the European average) on attitudes that ICT should be used for letting pupils do exercises and practise (70%), letting pupils retrieve information in a self-directed manner (67%) and for collaborative and productive work by pupils (78%). There are only minor differences across school types except for the vocational schools, where teachers are much more reserved and less often give a positive statement on these issues.

Access, Competence and Motivation for Using ICT and the Internet in Schools

Access

The majority of Lithuanian teachers are more or less satisfied with the technical access means at their schools: 63% state that their school is well equipped with computers and 77% express the opinion that their internet connection is fast enough. However, a very high 90% wish there were better support and maintenance actions taken. In terms of content 38% state problems with respect to finding adequate learning materials and 34% argue that existing material are of poor quality.

Competence in using ICT

Lithuanian teachers achieve significantly lower figures on ICT competence compared to the European average.

Primary school teachers (33%) seem to be even less ICT competent than those in lower and upper secondary and mainly vocational schools (17%).

Motivation for ICT use in Schools

A very high 94% of Lithuanian teachers see significant learning benefits for pupils using computers in class and say that pupils are more motivated and attentive when computers and the internet are used in class.

ICT Readiness of Teachers – the ACM Model

The ACM model as developed by Viherä and Nurmela (2001)[3] was applied in LearnInd to generate a typology according to the "propensity to the use of computers and internet by teachers in classroom situations at schools".

The typology in the figure below takes account of the three main categories of preconditions which need to be given for a school to make use of computers and the internet in the teaching process in classrooms, computer labs etc.

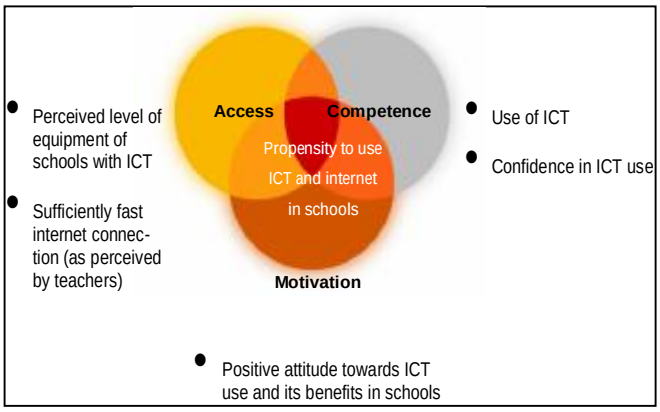
Teachers' access, competence and motivation for using ICT in class 2006

Percentage of teachers agreeing or strongly agreeing:	Total LT	Total EU25	Total NMS10	Educational Level: Primary	Lower secondary	Upper secondary	Vocational	Subject of teaching: General primary	Literature and languages	Humanities and social sciences	Science, maths, computer sciences	Physical, artistic, crafts education	Vocational education
Access													
Our school is well equipped with computers [a]	63.2	74.2	76.5	61.1	69.4	73.1	76.4	45.6	68.2	72.0	63.5	64.1	*85.0**
The internet connection we have is sufficiently fast [b]	77.3	77.2	78.2	77.9	76.5	80.6	*79.2**	76.5	76.7	82.6	75.7	79.2	*90.3**
Better technical maintenance and support is required in our school [c]	89.7	64.8	64.6	90.1	88.3	92.9	*94.1*	91.1	89.6	90.7	89.1	87.7	*96.9**
Existing teaching materials on the Internet are of poor quality [d]	34.4	29.9	29.3	37.4	33.9	32.5	*35.1**	37.3	34.4	34.3	34.7	30.0	*32.4**
It is hard to find adequate learning materials for teaching [e]	38.2	38.7	30.5	38.9	38.7	35.9	35.9	39.2	38.1	31.0	37.6	40.0	*51.9**
Motivation													
Pupils are more motivated and attentive when computers and the internet are used in class [f]	93.8	86.3	90.1	93.3	94.6	94.9	96.0	91.0	95.7	94.7	93.4	93.3	*93.8**
Using computers in class does not have significant learning benefits for pupils [g]	15.2	20.7	9.5	16.8	16.0	15.8	*6.2**	17.2	18.5	15.5	12.2	17.2	*3.2**
Competence													
Teachers in our school do not have sufficient computer skills [h]	31.2	42.0	30.6	33.3	30.2	28.4	*17.1**	34.3	34.0	32.8	27.9	25.1	*30.1**
Competence / computer skills (Percentage of teachers who feel very confident at…)													
Using text processors [i]	39.1	65.0	63.2	35.2	40.2	43.7	*47.4**	23.2	33.2	34.5	52.2	27.0	*34.8**
Creating electronic presentations [j]	30.0	34.0	41.0	25.7	29.8	36.3	*39.5**	11.4	23.5	23.5	44.8	15.8	*31.2**
Using e-mail [k]	47.9	65.9	64.8	43.9	47.3	55.1	*57.9**	33.8	49.1	40.1	55.2	32.7	*46.2**
Downloading and installing software [l]	15.1	35.8	34.6	14.2	14.9	19.6	*15.8**	9.2	8.8	6.5	28.0	5.4	*6.3**

Source: *LearnInd CTS 2006;* ***Base:*** *a-h All teachers; i -l Teachers using computers in class* ***Question:*** *a-h Q14, i-l Q11.* ***Notes:*** *"xx.x*": based on at least 10 and less than 50 cases.*

These are: access (to computers and the internet at school), competence (in using the computer software and the internet, and applying it for teaching purposes), and motivation (gauged through the attitude that using computers in classrooms results in significant learning benefits).

The Access-Competence-Motivation Model



Any attempt to group the classroom teachers according to their propensity to becoming users of computers and the internet in their teaching processes needs to take account of these three dimensions. In the present application of the ACM model data from the Classroom Teacher Survey (CTS) was used. Therefore "access" for instance is to be understood as a perceived level of computer equipment at schools and teachers' satisfaction therewith rather than an objective measure of equipment status.

38% of European teachers dispose of sufficient access to the internet at school, the necessary competence in using ICT in class and are motivated to its use. With 32% of the teachers belonging to this group, Lithuania ranks at 18th which places the country just in the bottom half of European countries. Overall the UK with 60% ranks top and Latvia with 15% finds itself at the very end.

Access, Motivation and Competence of Teachers for Using ICT in Schools in Lithuania 2006

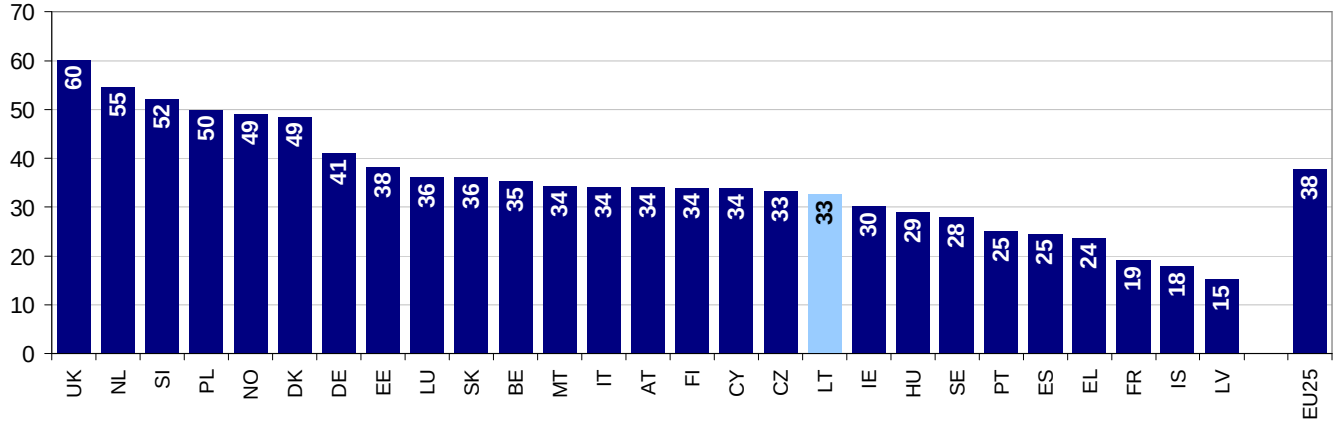
LT	EU25	Access	Competence	Motivation
5.7	4.3	~~Access~~	~~Competence~~	~~Motivation~~
3.8	3.9	**Access**	~~Competence~~	~~Motivation~~
8.6	9.7	~~Access~~	**Competence**	~~Motivation~~
12.5	5.0	~~Access~~	~~Competence~~	**Motivation**
5.1	13.7	**Access**	**Competence**	~~Motivation~~
9.7	4.8	**Access**	~~Competence~~	**Motivation**
22.0	20.7	~~Access~~	**Competence**	**Motivation**
32.6	37.9	**Access**	**Competence**	**Motivation**
100	100			

Percentage of teachers. ***Source:*** *LeanInd CTS 2006;* ***Base:*** *All teachers;* ***Question:*** *See endnote* [4]

The as yet insufficient level of ICT equipment and internet connection in many schools are the most critical issues for a wider uptake of computers and the internet in schools in Europe. 20% of European teachers indicate insufficient computer equipment and the low speed of internet connection at their school as key barriers. The situation in Lithuania is very similar to the overall situation in the EU25 with figures slightly higher but close to the European ones.

The strength of Lithuanian teachers is their motivation for using ICT, i.e. a large number of teachers are of the opinion that using computers in class does result in significant learning benefits. Here, Lithuania ranks 4th in Europe.

ICT Readiness of Teachers in Lithuania: Percentage of Teachers Fully Ready to use Computers in Class (ACM Indicator) 2006



Source: *LeanInd CTS 2006;* ***Base:*** *All teachers.* ***Question:*** *See endnote 5*

ANNEXES

Methodology Report

Universe / Sample population

In order to assure the comparability of school levels in all countries UIS-OECD-EUROSTAT "Mapping of national education programmes to ISCED 97 for school academic/year 2002/2003" [5] was used for composing the sample frame. Based on this, each country divided its school system into ICSED codes and made different combinations that existed in its country.

Sampling frame and method

The sample was composed using official databases, which contained contact data of schools. In the majority of countries the sample was drawn from a database received from the Ministry of Education.

For each country a separate template of sample frames was composed by TNS Emor. These templates contained data about school types across regions as well as location type. School types were defined based on the ISCED codes provided in UIS-OECD-EUROSTAT. Location type distribution was made according to the Eurostat type of locality classification which differentiates densely populated, intermediate and thinly populated municipalities[6]. Apart from that, each country was divided into 3-7 regions depending on the size of a country.

Based on the data provided by countries, TNS Emor composed quotas for each country. Two level stratification was used – quotas for first stage, random sample for second. The quotation for region by school type and location type was endorsed. Simple random selection was conducted by the local agency or the local source of the contact base. Both private and public schools were included in the sample. It was also obligatory to include schools of other teaching languages than the official language of a country in the sample.

Simple random sampling was used inside a quota cell. This means that if the quota for primary schools in region1 was 100 and the total number of primary school in this region was 800, then a random sample selection was be made among those 800 schools. This covered also both private and public schools and schools of other teaching languages than official language of a country.

No more than 50% of interviews could be made in one school level. At least 10% of respondents had to be from schools, which provided professional/vocational or combined programme of vocational and upper secondary level education (in case a country did not have special quota for those schools). It did not matter whether vocational education level was coded as ISCED 3 or ISCED 4.

There were no duplications in samples of head teacher and classroom teacher surveys. This was only allowed in countries with small universe sizes (e.g. Malta, Cyprus, Iceland, Estonia, Latvia etc) and in cases where the last quota cells were very difficult to achieve or there were not enough schools of a certain type. The priority was to include as many different schools as possible. In both surveys, 5 attempts were made before giving up and only if the respondent refused was this person not contacted again.

The CATI programme generated a randomly chosen letter. The interviewer asked for the person with a surname that started on the generated letter. If there was more than one teacher whose surname started with the selected letter, the person who was first alphabetically was chosen. If the correct person was not available, an appointment was made. At least 5 attempts were made before taking another teacher.

Only in Malta, due to instructions dictated by the Education Department, would the Head Teacher randomly select a teacher who would be available for an appointment during which they would be interviewed.

Number of interviews conducted (HTS / CTS)

Country		Head Teachers	Classroom teachers
BE	Belgium	450	807
CZ	Czech Republic	500	1000
DK	Denmark	315	848
DE	Germany	450	901
EE	Estonia	400	851
EL	Greece	500	1000
ES	Spain	518	1022
FR	France	501	869
IE	Ireland	403	626
IT	Italy	500	900
CY	Cyprus	150	600
LV	Latvia	451	902
LT	Lithuania	457	908
LU	Luxemburg	82	277
HU	Hungary	500	1000
MT	Malta	100	200
NL	Netherlands	515	890
AT	Austria	320	450
PL	Poland	500	1000
PT	Portugal	450	900
SI	Slovenia	253	460
SK	Slovakia	502	1000
FI	Finland	318	601
SE	Sweden	200	450
UK	United Kingdom	450	905
IS	Iceland	177	424
NO	Norway	494	708
TOTAL		**10456**	**20499**

Fieldwork

Fieldwork was coordinated by the TNS Emor and conducted in cooperation with its local TNS offices excluding Iceland, Cyprus, Austria, Slovenia and Malta where TNS does not have offices. In these countries partners with whom TNS had previous experience were used.

Pilot interviews prior to the regular fieldwork were conducted with 20 schools in both target groups in Estonia and Greece in February 2006, in order to test the questionnaire (structure, comprehensibility of questions).

Between March and April 2006, surveys among head teachers (head teacher survey - HTS) and classroom teachers (CTS) were carried out in 27 European countries. TNS Emor was responsible for the fieldwork.

Weighting schemes

After the fieldwork, weighting coefficients were computed using region, location type and school type.

Statistical accuracy of the survey: confidence intervals

Statistics vary in their accuracy, depending on the kind of data and sources. A "confidence interval" is a measure that helps to assess the accuracy that can be expected from data. The confidence interval is the estimated range of values on a certain level of probability of error. Confidence intervals for estimates of a population fraction (percentages) depend on the sample size, the probability of error, and the survey result (value of the percentage) itself. Further to this, variance of the weighting factors has negative effects on confidence intervals.

The calculation of confidence intervals is based on the assumption of (quasi-) infinite population universes. In practice, however, in some countries and for some school levels the complete population of schools consists of only several hundred or even a few dozen of schools. In some cases, literally each and every school within a country-school type cell was contacted and asked to participate in the survey. This means that it is practically impossible to achieve a higher confidence interval through representative school surveys in which participation is not obligatory.

Country Background Data

Right after Latvia, Lithuania has the lowest GDP per Capita in Europe, but with a GDP growth rate of 6.8%, economic growth is top across Europe. It is a small country with a declining population, one of the lowest fertility rates in Europe and a low life expectancy.

General Population Data for Lithuania 2002/03[7]

Total population (000)	3,465
Annual population growth rate (%)*	-0.4
Population 0-14 years (%)	19
Rural population (%)*	31
Total fertility rate (births per woman) *	1.2
Infant mortality rate (0/00) *	9
Life expectancy at birth (years) *	72
GDP per capita (PPP) US$ *	10,349
GDP growth rate (%)*	6.8
* World Bank World Development Indicators	

Resources for Education in Lithuania 2002/03

Pupil / teacher ratio (primary)	16
Public expenditure on education :	
as % of GDP	5.9
as % of total government expenditure	…
Distribution of public expenditure per level (%)	
pre-primary	…
primary	…
secondary	…
tertiary	…
unknown	…

The Educational System in Lithuania[8]

In the beginning of 2004, the number of people aged 29 and under was 1,362,292 (39.5% of the population). At the end of 2003, the number of children of compulsory school age was 426,107. The official language of instruction is Lithuanian. Linguistic/regional minorities (Russians, Poles and Belorussians) are able to teach their children their mother tongue and national history, and to foster their culture. In 2003/2004, a language of instruction other than Lithuanian was used at a number of schools that taught 51,411 pupils (9.2% of all pupils). Schools with linguistic minorities follow the common core curriculum for general education approved by the Ministry of Education and Science, and may supplement it with ethno-cultural elements.

In 2003/2004, 98.4% of students attended publicly funded education establishments financed by the central and local administration budgets. Private-sector education establishments are maintained by their founders. The Ministry of Education and Science is responsible for the development and implementation of education policies, and defines the criteria for the allocation of financial resources. The year 2002 saw the introduction of a new system of financing general education schools which is based on a *per capita* model (whereby money follows the pupil). The new system of financing provides for the budget of general education schools to be drawn on the basis of pupil “baskets” (*per capita*), in addition to funds for education environment (operational resources and capital assets), targeted funds for implementation of programmes and projects, funds of sponsors, etc. Pupil “basket” funds are allocated to municipalities as targeted grants. The funds of pupil “baskets” are to be used for implementation of the education policy approved by the Minister of Education and Science, i.e. to remunerate teaching and non-teaching staff, acquire textbooks and other teaching aids and implement teacher in-service training policy.

Responsibilities with regard to the administration and organisation of the education system are assumed by central government, the regional or local education authorities and the administrative bodies of the establishments involved, depending on their institutional category. Inspection and supervision of teaching activity are not carried out by a formally independent legal entity. Instead, they are coordinated by the Ministry of Education and Science at different administrative levels, depending on the kind of educational institution concerned.

The use of ICT in Education[9]

As a result of the annual 2001-2004 Programme "Education for the Information Society", the strategy for the introduction of ICTs into the Lithuanian education has been implemented.

The outcomes of this implementation process can be shown by presenting some core figures. The computer/teacher ratio is 17/1 in grades 1-12, and 7/1 in grades 9-12. In 50% of schools, the internet is already actively used in the teaching process. With regard to computer literacy of teachers, a large number of teachers have been trained on the technological aspects of the Teachers' Computer Literacy Standard, and how to use technologies efficiently for educational purposes. Another focus in this "teach-the-trainer" process is on how to use various educational software during school lessons. The educational software comprises 38 computer teaching aids provided with licenses for schools and 52 for testing.

One of the targets outlined by the National Education Strategy 2003-2012, which covers all levels of education, is that by 2012, no less than 85% of the Lithuanian working age population will have real access to Information and Computer Technologies (ICTs) and adequate ICT skills. To improve education and approximate it to the needs of real life, the results of international comparative studies Lithuania takes part in such as the IAE Progress in International Reading Literacy Skills (PIRLS), the Second Information Technology in Education Study (SITES) and Trends in International Mathematics and Science Study (TIMSS) are employed.

As outlined in The Strategy and Programme for the Introduction of ICTs into the Lithuanian Education in 2005-2007, one of the main objectives is to achieve a breakthrough in teaching and learning of pupils via the use of new information technologies. A computer network installed in education institutions will serve as a digital platform for the provision of teaching material, ICT management of the educational system and provide a base for communication between schools. The improvement of computer competence is also regarded as a tool to combat ICT-based social exclusion of pupils.

The Study

There is a lack of information on the actual use of ICT for learning in schools and for supporting political action in potential future programmes. It is necessary to clarify matters such as the educational vision of heads of schools, the current impact of ICTs on teachers' practice, support and training and on other factors for success in e-learning.

The objective of the study is to obtain estimates for the eEurope 2005 indicator on e-learning "number of pupils per computer with Internet connection (broadband/non-broadband)" and relate it to other possible indicators of educational use of ICT in compulsory education (e-learning in schools). The study looks at how Information and Communication Technologies (ICT) are used in schools.

The study is a continuation of the earlier benchmarking exercise for eEurope 2002.

It involved two surveys. Firstly of head teachers to obtain information on the schools and then of teachers to focus on their use of ICTs in the teaching process

This exercise is part of the Information Society monitoring and benchmarking process for which the Commission in cooperation with the Council defined benchmarking indicators.

Country Briefs

This document has been prepared by **empirica** based on own desk research and the above mentioned primary data sources: Head Teacher Survey (HTS) 2006 and Classroom Teacher Survey (CTS) 2006 in the EU25 member states, Iceland and Norway.

Altogether 27 LearnInd Country Briefs are available in a common format, one for each member of the enlarged European Union, Norway and Iceland.

A final report has also been developed. It includes approximately 100 exhibits, more than 250 data tables and a report about the key results.

You can access and download these documents in PDF format (for free) from http://ec.europa.eu/information_society/eeurope/i2010/benchmarking/index_en.htm.

More information

Check our results and achievements on: http://ec.europa.eu/information_society/eeurope/i2010/benchmarking/index_en.htm. If you wish to be provided with more details, or to receive news and updates, please contact us at: **learnind@empirica.com** or get in touch with us.

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1 Note that "in class" means during lessons while teaching and does not denote a particular location such as a classroom.

2 Base (100%) = all teachers who have used a computer in class in the last 12 months.

3 Viherä, M-L, Nurmela, J (2001) "Communication Capability Is an Intrinsic Determinant for Information Age", in Futures, Volume 33, Issue 3-4:245-265.

4 Synthetic indicators: Access: Q14 (2) "Our school is well equipped with computers" and Q14 (3) "The internet connection we have is sufficiently fast ".

Competence: Q11 How confident do you feel... a) using a text processor, b) creating a presentation c) using e-mail, d) downloading and installing software. Threshold: Average of 2.5 or more on a 1-4 confidence scale

Motivation: Q14 (8); disagree with "Using computers in class does not result in significant learning benefits".

For full question wordings refer to questionnaire.

5 http://forum.europa.eu.int/Public/irc/dsis/edtcs/library?l=/public/unesco_collection/programmes_isced97&vm=detailed&sb=Title

6 Densely populated area refers to a set of closely related local units, each one of which having a density greater than 500 inhabitants per km2, and the total population of which being of at least 50 000 inhabitants; Intermediate area refers to a set of closely related local units that do not pertain to a densely populated area, each one of which having density greater than 100 inhabitants per km2, and where the total population is at least of 50 000 inhabitants or it refers to a set that is adjacent to a highly populated area. Thinly populated area (rural): refers to a set of closely related local units that are not

part of a densely populated area, or of an intermediate area. (A set of local areas totalling less than 100 km², not reaching the required density, but entirely enclosed within a densely-populated or intermediate area, is to be considered to form part of that area. If it is enclosed within a densely-populated area and an intermediate area it is considered to form part of the intermediate area).

[7] Source: http://www.uis.unesco.org/profiles/selectCountry_en.aspx (visited 28 March 2006)

[8] Source: http://www.eurydice.org/Documents/struct2/frameset_EN.html (visited: 28 March 2006)

[9] Source: http://europa.eu.int/comm/education/policies/2010/nationalreport_en.html (visited: 9 May 2006)